CLAIMS

1. An alternator comprising:

a case;

a rotor disposed inside said case, said rotor being fixed to a shaft and having a fan disposed on an axial end portion;

a stator disposed so as to surround said rotor, alternating current being generated in said stator by a rotating magnetic field from said rotor; and

a rectifier disposed near an end portion of said shaft, said rectifier rectifying said alternating current generated in said stator,

wherein:

said rectifier includes:

a first heat sink;

first unidirectional conducting element bodies disposed on a surface of said first heat sink so as to be spaced apart;

a second heat sink disposed so as to be separated from said first heat sink;

second unidirectional conducting element bodies disposed on said second heat sink so as to be spaced apart; and

a circuit board having a circuit-board terminal by which said first unidirectional conducting element bodies and said second unidirectional conducting element bodies are connected so as to constitute a bridge circuit, and

a terminal connection portion, configured by connecting a terminal leading out of said first unidirectional conducting element bodies and a terminal leading out of said second unidirectional conducting element bodies respectively with said circuit board terminal, is disposed between said rotor and said circuit board.

2. The alternator according to Claim 1, wherein:

said fan is a centrifugal fan; and

said terminal connection portion is disposed radially outside said centrifugal fan.

3. The alternator according to either Claim 1 or Claim 2, wherein:

said fan has an annular plate disposed on an end portion near said circuit board.

4. The alternator according to any one of Claims 1 through 3, wherein:

said terminal connection portion is configured by extending axially and connecting said terminal of said first unidirectional conducting element bodies, said terminal of said second unidirectional conducting element bodies and said circuit board terminal respectively.

5. The alternator according to any one of Claims 1 through 4, wherein:

said first heat sink and said second heat sink each have a horseshoe shape; and

said second heat sink is disposed radially outside said first heat sink.

6. The alternator according to any one of Claims 1 through 5, wherein:

an outer peripheral portion of said second heat sink is in surface contact with said case.

7. The alternator according to any one of Claims 1 through 6, wherein:

said first heat sink and said second heat sink are made of aluminum.

8. The alternator according to any one of Claims 1 through 7, wherein:

a resin coating is formed on a surface of said first heat sink and said second heat sink.

9. The alternator according to any one of Claims 1 through 8, wherein:

said first unidirectional conducting element bodies are joined to said first heat sink by brazing; and

said second unidirectional conducting element bodies are joined to said second heat sink by brazing.

10. The alternator according to any one of Claims 1 through 9, wherein:

said first unidirectional conducting element bodies are fitted into a penetrating aperture formed on said first heat sink; and

said second unidirectional conducting element bodies are fitted into a penetrating aperture formed on said second heat sink.

11. The alternator according to any one of Claims 1 through 10, wherein:

said terminal connection portion is formed by connection using resistance welding.

12. The alternator according to any one of Claims 1 through 10, wherein:

said terminal connection portion is formed by connection using tungsten-arc inert gas-shielded (TIG) welding.

13. The alternator according to any one of Claims 1 through 12, wherein:

a lead wire connection portion in which a lead wire of said stator is connected to said circuit board terminal of said circuit board projects outward near said rotor.